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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
Division of Forest Insect Investigations

FOREST INSECT CONDITIONS
FOREST CREEK AREA, STANISLAUS N. F.
SEPTEMBER, 1953
RECONNAISSANCE SURVEY

In August, 1953, two of the Forest Insect Laboratory's cooperators, Sam H. Bryan of Calaveras Land and Timber Corporation, and Warren Carlton of Winton Lumber Company jointly reported a large number of top-killed sugar and ponderosa pine of their holdings on the Forest Creek drainage, within the Stanislaus National Forest. The Forest Insect Laboratory was requested to examine the damage and B. E. Wickman was detailed to make a reconnaissance of the area. This was accomplished on September 4, 1953 with the aid of Sam Bryan, who delineated the entire area where top-killing had been observed.

Insect and Host Species

The hosts involved were mature and overmature ponderosa pine and sugar pine, although some younger trees were also attacked. Usually these were the thriftiest trees in virgin stands, and most of the "leave" trees in cutover. While some of the trees were infested with the California five-spined engraver, Ips confusus (Lec.), the major portion were not. The top-killing did not resemble typical engraver damage. The very terminal cluster of needles on the trees was dead; in some cases the damage extended down to five feet below the terminal and included several whorls of branches. A sharp line of demarcation was evident between the green unaffected portion and the infested, sorrel-colored top.

Upon examining the injured top of a freshly-fallen ponderosa pine tree, pine twig beetle adults of the genus Pityophthorus were found. These are probably P. confertus Sw.; specimens have been sent to Washington for verification.

Status and Scope of Infestation

The infested area is located in the northwest corner of Stanislaus National Forest and is composed principally of private lands belonging to the Winton Lumber Company and Calaveras Land and Timber Corporation. Top-killing is quite general and occurs in parts of T.7N, R.15E; T.7N, R.16E; T.6N, R.15E; and T.5N, R.15E, mainly in the Forest Creek drainage, Buck Ranch, and White Pine areas. In the area observed near Forest Creek it is estimated that six trees per acre are top-killed.

Discussion and Recommendations

Pityophthorus top-killing is probably more extensive in this part of the State this year than it has been for some time. The infestation seems to have built up rapidly and is unusual in its magnitude and intensity. K. A. Salmon-1/ reported a similar condition of top-killing caused by pine twig beetles of the genus Pityophthorus prevalent in 1935 throughout the forested areas of California, especially in the Stanislaus National Forest. His description of the injury is very similar to that which is evident in the Stanislaus National Forest at this time, with thrifty ponderosa pine being the principal host in both cases. In the present instance, however, sugar pine appears to be infested as well as ponderosa pine. The injury will undoubtedly hinder growth of the trees involved, and may pave the way for subsequent invasion by pine engraver or other bark beetles. This has happened in some cases, but most of the trees thus affected have been salvage-logged by Winton Lumber Company.

No control action is necessary, but it is recommended that the infested area be closely watched. In case infestations of other bark beetles develop in top-killed trees, it would be advisable to salvage the infested trees in time to get the insect broods out of the woods before they emerge in the spring to attack new trees.

1/ An Unusual Type of Top-Kill of Ponderosa Pine - Journal of Economic Entomology 31(5):613, 1938.

Forest Insect Laboratory
Berkeley, California
October 13, 1953

Boyd E. Wickman
Supervisory Control Aid